

REMARKS/ARGUMENTS

Favorable reconsideration of this application is respectfully requested.

Claims 1-20 are pending in this application. Claims 1, 2, 11, and 12 were rejected under 35 U.S.C. §103(a) as unpatentable over U.S. patent 5,943,141 to Tamura in view of U.S. patent 5,442,464 to Ito. Claims 3, 4, 13, and 14 were rejected under 35 U.S.C. §103(a) as unpatentable over Tamura in view of Ito and U.S. patent 5,659,335 to Barron et al. (herein "Barron"). Claims 9, 10, 19, and 20 were rejected under 35 U.S.C. §103(a) as unpatentable over Tamura in view of Ito and U.S. patent 5,900,948 to Shigeeda et al. (herein "Shigeeda"). Claims 5-8 and 15-18 were objected to as dependent upon rejected base claims, but were noted as allowable if rewritten in independent form to include all of the limitations of their base claims and any intervening claims.

Initially, applicants gratefully acknowledge the indication of the allowable subject matter in claims 5-8 and 15-18.

Addressing now each of the above-noted prior art rejections, those rejections are traversed by the present response.

The claims are amended by the present response to clarify features recited therein. Specifically, independent claim 1 now more clearly recites:

a correcting part correcting the black correction reference data by a ratio between a first digital black level value obtained from an output voltage level of said empty transfer part obtained through said A-D converter when the black correction reference data is detected and a second digital black level value obtained from an output voltage level of said empty transfer part obtained through said A-D converter when the image is read.

The other independent claims are amended by the present response to recite a similar feature. Applicants respectfully submit such features clearly distinguish over the applied art.

The outstanding rejection recognizes that Tamura does not disclose the claimed "black shading correcting part" or the "correcting part". To overcome those recognized

deficiencies in Tamura the outstanding rejection cites the teachings in Ito. The outstanding rejection specifically with respect to the claimed “correcting part” references element 204 in Figure 2 of Ito and the text at column 19, Equation 4 and the ensuing disclosure. However, applicants respectfully submit such relied upon disclosures in Ito do not correspond to the claimed features of the clarified “correcting part”.

As noted in the present specification for example at page 21, line 20 et. seq., a digital black level value  $D0\_t1$  is an output level of the empty transfer part obtained through the A-D converter when the black correction data is detected, and the digital black value level  $D0\_t2$  is an output level of the empty transfer part obtained through the A-D converter when an image is read. The claims as currently written utilize such a ratio  $D0\_t2/D0\_t1$  as a correction value. Such features are believed to clearly distinguish over the applied art as the noted teachings in Ito are not believed to teach or suggest utilizing such a ratio.

The outstanding rejection as noted above cites the teachings in Ito at column 19, Equation 4 and the ensuing disclosure. However, applicants note Equation 4 in Ito is a ratio of the illuminance-ratio in a tube-temperature  $T$  to the illuminance-ratio in the tube-temperature  $T_0$ . That is, the ratio noted in Ito is directed to a ratio between two different tube temperatures. The noted teachings in Ito are directed to ensuring that differences in tube temperature do not adversely effect the noted calculation.

Such teachings in Ito are unrelated to the claimed features.

That is, the illuminance-ratio at two different tube temperatures as in Ito is unrelated to the claimed ratio of “a first digital black level value obtained from an output **voltage** level of said empty transfer part obtained through said A-D converter when the black correction reference data is detected and a second digital black level value obtained from an output **voltage** level of said empty transfer part obtained through said A-D converter when the image is read” (emphasis added). The claimed ratio does not consider or even address different

tube-temperatures. Instead, the claimed ratio is directed to an output level of the empty transfer part at two different times, namely when the black correction reference data is detected and when an image is read.

Ito does not disclose or suggest any such features. Ito is not at all directed to determining an output of an empty part at two different times of when a black correction reference is detected and when an image is read, nor is Ito directed to utilizing a ratio of such outputs in a black correction operation.

In maintaining the outstanding rejections, the outstanding Office Action states:

3. Applicant's arguments filed 23 March 2005 have been fully considered but they are not persuasive.

**Regarding pages 14-16:** Column 19, equation 4 of Ito (US Patent 5,442,464) gives a [ratio] of the illuminance-ratio in the tube at a temperature T divided by the illuminance ratio in the tube at a temperature  $T_0$ . The temperature  $T_0$  is the temperature of the tube during the dark state – in other words, when there is no image to be read – and the temperature T is the temperature of the tube during the image reading. The illumination-ratio of the tubes during reading divided by the illumination-ratio of the tubes during the dark state is used to correct the reference data (column 18, lines 57-67 of Ito). Thus, Ito teaches the correcting part that is specifically claimed.<sup>1</sup>

In response to the above-noted basis for maintaining the rejection, applicants again note the claims are amended by the present response to clarify the operation of the correcting part, particularly clarifying the ratio of the first and second digital black level values, both being obtained from output voltage levels. Such features are believed to clearly distinguish over the above-noted basis for the rejection citing Ito. Specifically, Ito again discloses measuring different illuminance ratios at different temperatures. An illuminance ratio is completely unrelated to the claimed ratio of the first and second black level values obtained from output *voltage* levels.

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<sup>1</sup> Office Action of June 14, 2005, page 2.

In view of these foregoing comments, applicants respectfully submit the claims as currently written recite features neither taught nor suggested by the applied art. Therefore, each of claims 1-20 as currently written is believed to distinguish over the applied art.

As no other issues are pending in this application, it is respectfully submitted that the present application is now in condition for allowance, and it is hereby respectfully requested that this case be passed to issue.

Respectfully submitted,

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